



**SPIDER™**

**4:1 KVM Switcher (OKVM-41U)  
2:1 KVM Switcher (OKVM-21U)**



*User's Manual*

## **Unpacking**

OKVM-41U KVM switcher shipping group includes the following items;

OKVM-41U KVM switcher Unit  
One (1) +12V, 3A Power Supply Adapter  
RS-232C Cable  
User manual

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Description, General Specification

ITEM	DESCRIPTION
Model Name	OKVM-41U
Input Signal	DVI (TMDS) Single Link, 4 Ports Stereo Audio, 4Ports USB B Type, 4Ports
Output Signal	DVI (TMDS) Single Link, 1 Port Stereo Audio, 1 Port USB A Type, 2 Ports
Resolution	VGA / SVGA / XGA /UXGA /WUXGA for PC
Receptacle	DC Power Jack for +12V power
Power Consumption	DC +12V, 6W Max
Dimension / Weight	442x60x43 mm / 1.5Kg

## Environmental and Reliability Specifications

### 1 Operating Conditions

Temperature : 0 °C ~ 50 °C  
Humidity : 10% ~ 80%, non-condensing  
Altitude : maximum 3,000m

### 2 Transportation Conditions

Temperature : -25 °C ~ 60 °C  
Humidity : 5% ~ 95%, non-condensing  
Altitude : maximum 15,000m

### 3 Storage Conditions

Temperature : -20 °C ~ 45 °C  
Humidity : 5% ~ 95%, non-condensing  
Altitude : maximum 3,000m

### 4 Reliability Specifications

MTBF: more than 50,000 hours at 90% confidence level  
Reliability specification and items: refer to "Specification of reliability test for LCD monitor"

## Main Features

### High Quality Picture and Audio - No Signal Loss and Digital Noise Free

The product is built to deliver the highest quality picture preserving the native resolutions of the video sources without any signal loss. At the same time, the digital noises that may affect the picture quality will be eliminated. Due to the nature of the digital signals and passing through multiple stages of connection when using Selectors, it is important to eliminate the digital noises and boost the signal strength to preserve/enhance the video signal quality.

**Signal Amplification for signal reliability and long length signal transmission.** The 12V power adapter supplies adequate power to amplify the video signals from different video sources. This is necessary as the overall length from the video source to the displays is longer when using the selectors (distance from the video source to the selector + distance from the selector to the display). In most cases, the overall distance that the DVI signal will need to travel is over 10ft. Due to the nature of DVI signals, amplification is necessary to warrant the video quality and reliability. (Without amplification, there may be occasional blackouts or blinking effects)

### Compact and Practical Design

The product has all of the DVI ports, power supply jack and RS-232C port in the back of the unit allowing it be mounted on any racks or with any other components.

### RS232 Control

OKVM-41U Selectors also feature RS232 Control. The products are capable of being controlled by a remote computer. This is extremely helpful for many applications where you need to automatically switch the video inputs. Example: If you connect a PC to the product, you can program it to automatically switch the sources. If you want to display input 1 for 1 hour and then switch to input 2, you can do this with the PC.

## Installation

### STEP1

Plug the provided AC power cord to the AC/DC power adaptor then plug the DC cord to the +12VDC receptacle on the front panel.

### STEP2

Press POWER button on the front panel then Red LED will be lit on

### STEP3

The system is now ready to operate and connect each device.

**Technical Note:** For further extension, you might use optical DVI cables or modules instead of copper cables. You could apply Opticis Co., Ltd Optical DVI Extension Cables or Modules.

## Mechanical Specification

### Dimensions



- OKVM-41U -



- OKVM-21U -

OKVM-41U/21U: 442x60x43 mm / 1.5 Kg

### < Front >

- \*PC1 ~ PC4: Source (PC) Selection Button
- \*Local LED: Status of connected KVM Extender (Local)
- \*Operator: Status of connected KVM Extender (Operate)

### < Rear >

- \*DC +12V: DC Power 12V Input
- \*RS-232C: Com Port for Function Control
- \*REMOTE: Communication Port for Keypad
- \*PC1 ~ PC4: DVI, Stereo Audio, and USB Inputs
- \*MONITOR: DVI, Stereo Audio and USB Outputs
- \*DOWNLOAD: Firmware Upgrade Port

# Technical Specification

Frequency bandwidth: 1.65 Gbps (Single Link)  
Supporting Graphic Resolution: WUXGA (1920 X 1200 at up to 60Hz)

- \*Inputs: DVI Female (4 ports)  
          USB B Type Female (4 ports)  
          Stereo Audio (4 ports)
- \*Output: DVI Female (1 port)  
          USB A Type Female (2 ports)  
          Stereo Audio (1 port)

\*Power supply: DC 12V, 3A Adapter included.

## Connector Pin Assignment

### DVI-I Input, Output

Part No.	Pin No.	Description	Remarks
DVI-I 29pin	1	TMDS DATA 2M	
	2	TMDS DATA 2P	
	3	TMDS DATA 2/4 Shield	
	4	TMDS DATA 4M(N.C)	
	5	TMDS DATA 4P(N.C)	
	6	DDC Clock	
	7	DDC Data	
	8	N.C	
	9	TMDS DATA 1M	
	10	TMDS DATA 1P	
	11	TMDS DATA 1/3 Shield	
	12	TMDS DATA 3M(N.C)	
	13	TMDS DATA 3P(N.C)	
	14	5V	
	15	GND	
	16	Hot Plug Detect	
	17	TMDS DATA 0M	
	18	TMDS DATA 0P	
	19	TMDS DATA 0/5 Shield	
	20	TMDS DATA 5M(N.C)	
	21	TMDS DATA 5P(N.C)	
	22	TMDS DATA Clock Shield	
	23	TMDS Clock P	
	24	TMDS Clock M	

# Warranty Information

## 1 (One) Year Warranty

Opticis Co., Ltd warrants this OKVM-41U KVM Selector to be free from defects in workmanship and materials, under normal use and service, for a period of one (1) year from the date of purchase from Opticis Co., Ltd or its authorized sellers.

If a product does not work as warranted during the applicable warranty period, Opticis Co., Ltd shall, at its option and expense, repair the defective product or part, deliver to customer an equivalent product or part to replace the defective item, or refund to customer the purchase price paid for the defective product.

All products that are replaced will become the property of Opticis Co., Ltd.

Replacement products may be new or reconditioned.

Any replaced or repaired product or part has a ninety (90) day warranty or the reminder of the initial warranty period, whichever is longer.

Opticis Co., Ltd shall not be responsible for any software, firmware, information, or memory data of customer contained in, stored on, or integrated with any products returned to Opticis Co., Ltd for repair under warranty or not.

## Warranty Limitation and Exclusion

Opticis Co., Ltd shall have no further obligation under the foregoing limited warranty if the product has been damaged due to abuse, misuse, neglect, accident, unusual physical or electrical stress, unauthorized modifications, tampering, alterations, or service other than by Opticis Co., Ltd or its authorized agents, causes other than from ordinary use or failure to properly use the product in the application for which said product is intended.

## Troubleshooting

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Problem	Remedy actions
Switcher will not operate	Make sure the 12V power is plugged in the back of the unit. Check to see if the power LED light is on.
No picture (or signal) or Poor picture	1. If you are using copper based DVI cable, overall length of the cables (length of the cables from video source to switch and length of the cable from switch to display) should not exceed 20ft. Exceeding 20ft. with copper based cables will result in no or poor picture quality. To extend beyond 20ft, please use fiber optical DVI extension cables such as Opticis OC cables. 2. If you are using computers, try other refresh rate settings. Most HDTVs have refresh rate of 48Hz and computer's video cards are usually set at higher refresh rate. Try lower refresh rates. 3. Turns off all equipments (video source, switch and HDTV) and restart all equipments.

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